

PPM series (90W~375W, 1mV/0.1mA)

Introduction

PPM series are high precision programmable DC power supply with single output, output power rated from 90W to 375W with various model numbers. PPM series are featured with low regulation 0.01%, low ripple and noise 1mVrms, automatic continuous or dynamic load change, battery charge function. MPU control, RS-232/RS-485/USB interface for PC control, the PPM series facilitates auto test and auto control. The commands of the PPM series are compliant with SCPI commands. Users can easily develop programs to facilitate different applications in auto test and auto control. Digital input fulfilled by rotary dial and keypad input, fast and accurate. Voltage and current regulations by software, avoids human error and makes the PPM series more accurate.

Features

- ✓ 0.01% low regulation, high accuracy and high resolution
- ✓ Over load, over voltage, over current, over temperature and reverse polarity protections
- ✓ Constant voltage and constant current operations, auto CV and CC switch
- ✓ Automatic continuous or dynamic load change
- ✓ 1mVrms low ripple & noise
- ✓ 4.3-inch backlit Segment LCD display
- ✓ High speed rotary dial and keypad input
- ✓ Built-in beeper alarm
- ✓ Panel lock and output ON/OFF function
- ✓ List mode function, 300 sets save & recall for voltage, current and time setups, easy use in auto test
- ✓ Remote sense function (except PPM-3H12, PPM-5H07)
- ✓ Display load resistance value
- ✓ Battery charge mode
- ✓ Standard RS-232 interface, Support SCPI & ModBus commands, support Labview
- ✓ Data record software
- ✓ Optional functions:
 - RS-485 interface
 - 0-5V analog control (except PPM-3H12, PPM-5H07)

Product photo



(Rated Current $\leq 10A$)



(Rated Current $>10A$)

Selection Guide

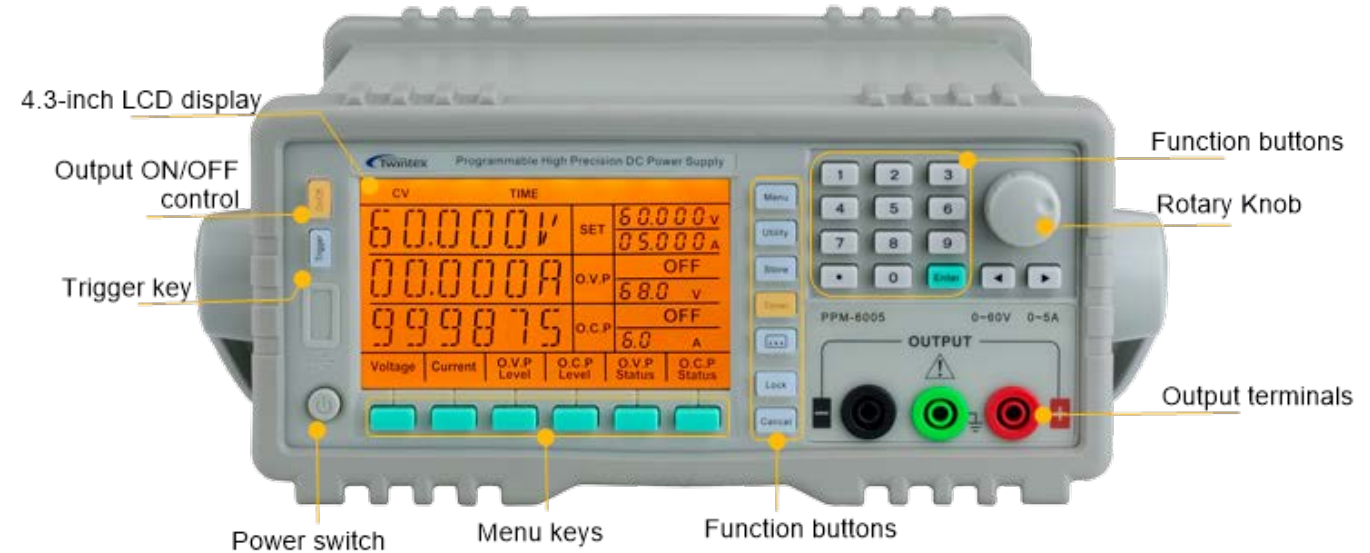
We have different series of laboratory programmable power supplies. Each of them has their own remarkable features.

	PPA	PPH	PPS	PPW	PPM
Display	4.3-inch TFT LCD	4.3-inch TFT LCD	4.3-inch TFT LCD	4.3-inch LCD	4.3-inch LCD
Working mode	Switching	Linear	Switching	Switching	Linear
Rated Power	400W 850W 1500W	200W To 360W	300W 600W 900W	300W 600W 900W	90W To 375W
Voltage Ripple	50mVpp	1mV	30mVpp	30mVpp	1mVrms
Ramp output	√	√	√	×	×
USB Host	√	√	√	×	×
USB Device	×	×	×	×	×
RS232	√	√	√	√	√
RS485	√	√	√	Optional	Optional
Analog Control 0-5V	×	√	√	Optional	Optional
Remote Sensing	√	√	√	√	√
Battery Charge Mode	√	√	√	√	√
Load resistance measurement	√	√	√	√	√
List Mode	√	√	√	√	√
19-Inch Rack Compatible	√	√	√	√	√
Data record software	√	√	√	√	√

Display and Control Panel

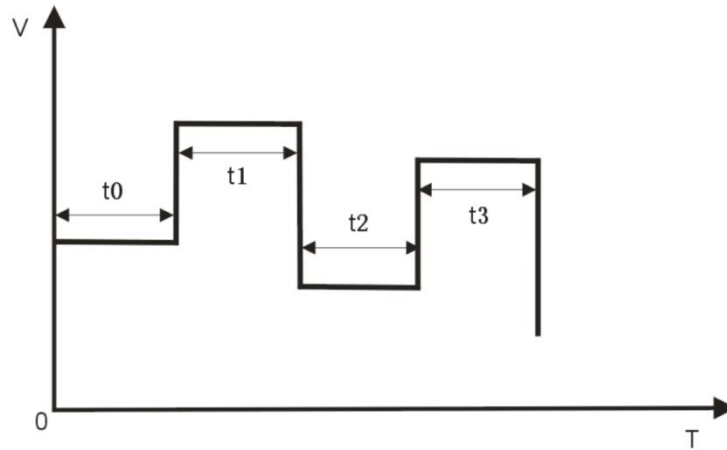
Output voltage, output current and output time can be set through digital keypad or rotary knob. Actual values of output voltage and output current can be represented in waveform display.

To prevent unintentional operations, all operation controls can be locked.



Timing Output

When the timing output is ON, the power supply outputs the preset voltage and current values (max 300 groups) to truly simulate the various kinds of running status of power supply. Output curve of timing output can be displayed in the way of waveform.



Press "Timer" key to set timing output parameters and press "On/Off" key to start output. Max 300 groups of parameters can be set. Many groups of parameters can be set into one running cycle. The power supply makes output according to preset cycles. In each cycle, output voltage, output current and output time can be set differently. Numbers of cycles can be set as INFINITE or set during 1 to 99999 cycles.

The preset cycles can be set to run in different modes:

AUTO: Automatically run preset cycles.

STEP: Run a single step upon a trigger.

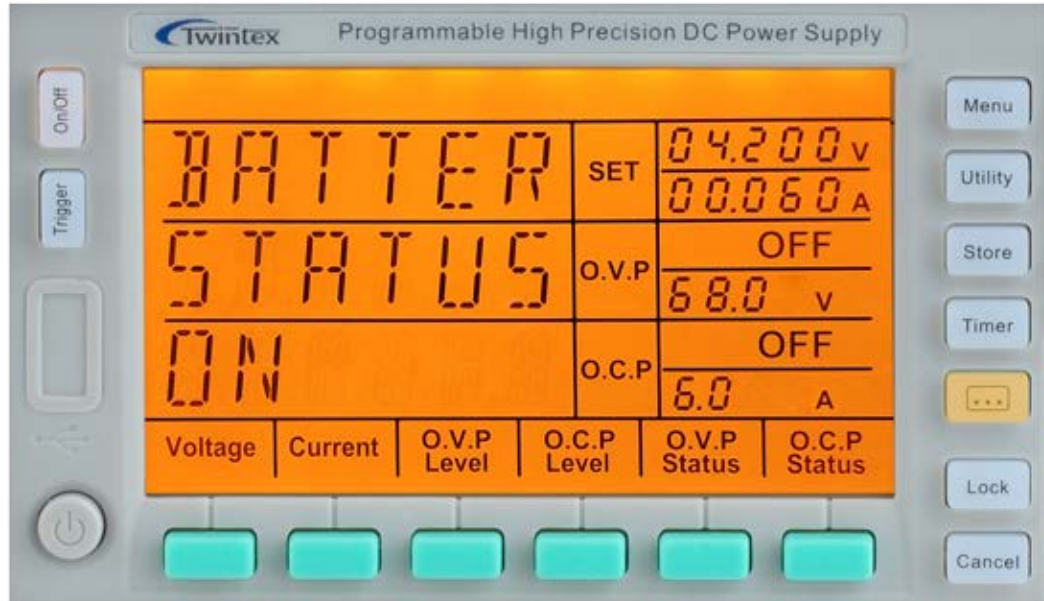
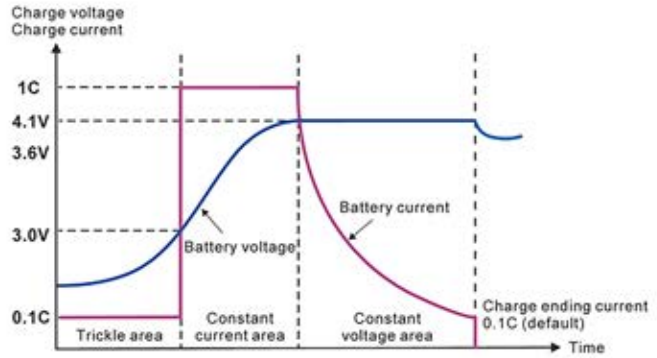


Programmable Linear DC Power Supply



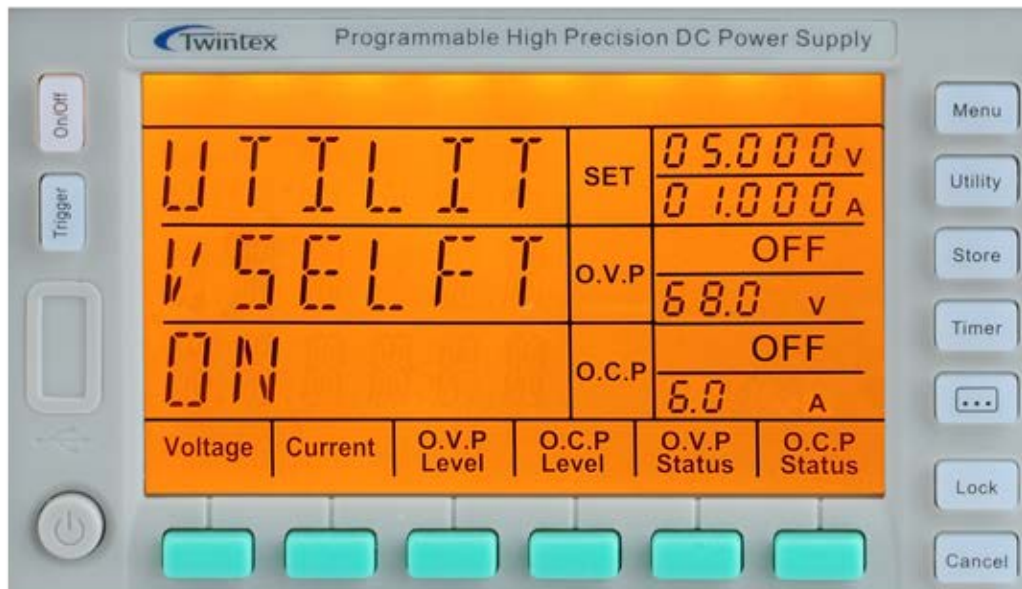
Battery Curved Charge

Instead of same charging voltage and current through out the whole charging operation, a curved charge operation can perfectly protect batteries under charge.



Voltage Self Check

When output voltage self test is ON, the power supply will monitor output voltage at output terminal and adjust output voltage to minimize the error between real output value and preset output value.



Low Resistance Measurement

The power supply can measure load resistance and display it on screen.
Press "Utility" key to choose display of load resistance or output power.

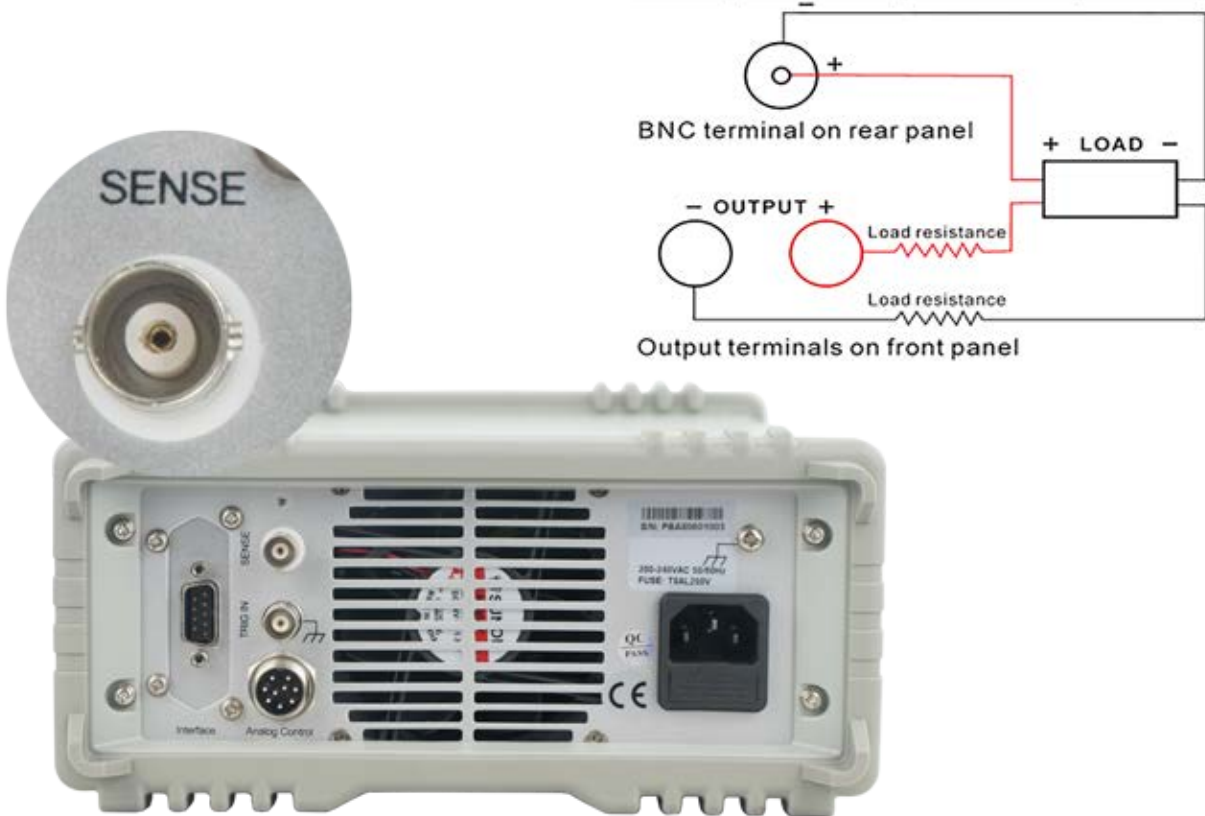


Programmable Linear DC Power Supply



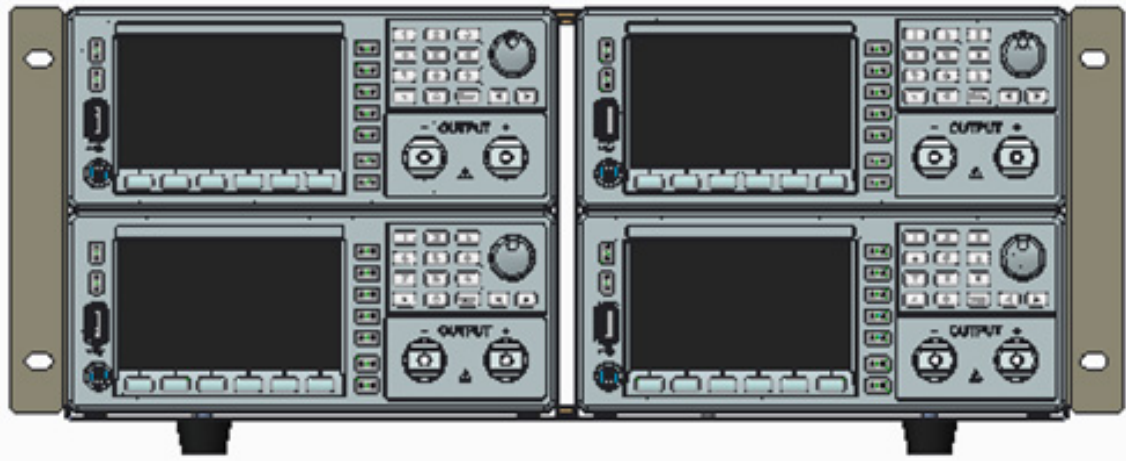
Remote Sense

The power supply can automatically compensate for the voltage drop caused by the load lead to ensure that the power supply output value set by users is consistent with the voltage acquired by the load.



Rack Mount Compatible

The power supply units can be locked onto 19-inch cabinet, providing 3U rack panel or 4U rack panel.



Programmable Linear DC Power Supply



Specifications (90W ~ 180W)

Model	PPM-3003	PPM-3005	PPM-3603	PPM-3605	PPM-6003	PPM-6005
Rated output (0°C~40°C)						
Voltage	0~32V	0~32V	0~40V	0~40V	0~64V	0~64V
Current	0~3.2A	0~5.5A	0~3.2A	0~5.5A	0~3.2A	0~5.5A
O.V.P	0.1~36V	0.1~36V	0.1~42V	0.1~42V	0.1~68V	0.1~68V
O.C.P	0.1~3.6A	0.1~6.0A	0.1~3.6A	0.1~6.0A	0.1~3.6A	0.1~6.0A
Constant Voltage Operation						
Line regulation	≤0.01%+3mV					
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)					
Ripple & Noise	≤1mVrms (I≤3A); ≤2mVrms (I>3A) (5Hz~1MHz)					
Recovery time	≤100us (50% load change, minimum load 0.5A)					
Constant Current Operation						
Line regulation	≤0.1%+3mA					
Load regulation	≤0.1%+3mA (I≤3A); ≤0.1%+5mA (I>3A)					
Ripple & Noise	≤3mArms (I≤3A), ≤6mArms (I>3A)					
Display						
Voltmeter	5 digits LCD display					
Ammeter	5 digits LCD display					
Setting resolution	1mV/0.1mA					
Reading resolution	1mV/0.1mA					
Setting accuracy	Voltage	±(0.03% of reading + 10mV) (25±5°C)				
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)				
Reading accuracy	Voltage	±(0.02% of reading + 5mV) (25±5°C)				
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)				
General						
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections					
Panel lock	Provided					
Remote sense function	Maximum compensation voltage 5% of FS					
Battery charge	Lithium battery curve charge					
Interface	RS232 interface, Support SCPI & ModBus commands					
	Optional RS485 interface					
	Optional RS232 to USB cable					
	Optional 0-5V analog control					
Memory	300 sets					
Insulation	Between base and terminals: ≥20MΩ/500VDC					
	Between base and AC power cord: ≥30MΩ/500VDC					
Operating environment	Indoor use	Altitude: ≤2000m		Ambient temperature: 0~40°C		
	Relative humidity: ≤80%	Installation category: II		Pollution degree: 2		
Storage environment	-10°C~70°C, ≤70%RH					
Power source	AC110V/220V±10% selectable, 50/60Hz					
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1					
Dimension	215Wx89Hx352D mm					
Weight	6.8kg	6.8kg	6.8kg	8kg	8kg	8kg

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Programmable Linear DC Power Supply



Specifications (120W ~ 375W)

Model	PPM-2010	PPM-3010	PPM-7503	PPM-7505	PPM-12001	PPM-12002	PPM15H15	
Rated output (0°C~40°C)								
Voltage	0~22V	0~32V	0~80V	0~80V	0~128V	0~128V	0~160V	
Current	0~11A	0~11A	0~3.2A	0~5.5A	0~1.1A	0~2.2A	0~1.6A	
O.V.P	0.1~24V	0.1~36V	0.1~84V	0.1~84V	0.1~134V	0.1~134V	0.1~180V	
O.C.P	0.1~12A	0.1~12A	0.1~3.6A	0.1~6.0A	0.1~1.2A	0.1~2.4A	0.1~1.8A	
Constant Voltage Operation								
Line regulation	≤0.01%+3mV							
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)							
Ripple & Noise	≤1mVrms (I≤3A); ≤2mVrms (I>3A); ≤3mVrms (V≥75V) (5Hz~1MHz)							
Recovery time	≤100us (50% load change, minimum load 0.5A)							
Constant Current Operation								
Line regulation	≤0.1%+3mA							
Load regulation	≤0.1%+3mA (I≤3A); ≤0.1%+5mA (I>3A)							
Ripple & Noise	≤3mArms (I≤3A), ≤6mArms (I>3A)							
Display								
Voltmeter	5 digits LCD display							
Ammeter	5 digits LCD display							
Setting resolution	1mV/1mA		2mV/0.1mA		10mV/0.1mA			
Reading resolution	1mV/1mA		1mV/0.1mA		10mV/0.1mA			
Setting accuracy	Voltage	±(0.03% of reading + 10mV) (25±5°C)						
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)						
Reading accuracy	Voltage	±(0.02% of reading + 5mV) (25±5°C)						
	Current	±(0.1% of reading + 0.1% of FS) (25±5°C)						
General								
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections							
Panel lock	Provided							
Remote sense function	Maximum compensation voltage 5% of FS							
Battery charge	Lithium battery curve charge							
Interface	RS232 interface, Support SCPI & ModBus commands							
	Optional RS485 interface							
	Optional RS232 to USB cable							
	Optional 0-5V analog control							
Memory	300 sets							
Insulation	Between base and terminals: ≥20MΩ/500VDC							
	Between base and AC power cord: ≥30MΩ/500VDC							
Operating environment	Indoor use		Altitude: ≤2000m		Ambient temperature: 0~40°C			
	Relative humidity: ≤80%		Installation category: II		Pollution degree: 2			
Storage environment	-10°C~70°C, ≤70%RH							
Power source	AC110V/220V±10% selectable, 50/60Hz							
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1							
Dimension	215Wx89Hx352D mm							
Weight	8kg	8.5kg	8kg	8kg	8.5kg	6.8kg	8kg	6.8kg

Programmable Linear DC Power Supply



Specifications (240W ~ 360W)

Model	PPM-1820		PPM-12003		PPM-3H12		PPM-5H07	
Rated output (0°C~40°C)								
Voltage	0~19V		0~128V		0~330V		0~500V	
Current	0~21A		0~3.2A		0~1.2A		0~0.7A	
O.V.P	0.1~21V		0.1~134V		0.1~360V		0.1~550V	
O.C.P	0.1~22A		0.1~3.6A		0.01~1.32A		0.01~0.8A	
Constant Voltage Operation								
Line regulation	≤0.01%+3mV							
Load regulation	≤0.01%+3mV (I≤3A); ≤0.02%+5mV (I>3A)							
Ripple & Noise (5Hz~1MHz)	≤1mVrms		≤2.5mVrms		≤10mVrms		≤10mVrms	
Recovery time	≤100us (50% load change, minimum load 0.5A)							
Constant Current Operation								
Line regulation	≤0.1%+3mA							
Load regulation	≤0.05%+3mA (I≤3A); ≤0.05%+5mA (I>3A)							
Ripple & Noise	≤5mAms		≤1mAms		≤1mAms		≤1mAms	
Display								
Voltmeter	5 digits LCD display							
Ammeter	5 digits LCD display							
Setting resolution	1mV/1mA		10mV/0.1mA		10mV/0.1mA		10mV/0.1mA	
Reading resolution	1mV/1mA		10mV/0.1mA		10mV/0.1mA		10mV/0.1mA	
Setting accuracy (25±5°C)	Voltage	±(0.03% of reading + 10mV)			±(0.03% of reading + 30mV)			
	Current	±(0.1% of reading + 0.1% of FS)						
Reading accuracy (25±5°C)	Voltage	±(0.02% of reading +5mV)			±(0.02% of reading +30mV)			
	Current	±(0.1% of reading + 0.1% of FS)						
General								
Protection	Over load, over voltage, over current, over temperature and reverse polarity protections							
Panel lock	Provided							
Remote sense function	Max. compensation voltage 0.5 of FS				X		X	
Battery charge	Lithium battery curve charge							
Interface	RS232 interface, Support SCPI & ModBus commands							
	Optional RS485 interface							
	Optional RS232 to USB cable							
	Optional 0-5V analog control				X		X	
Memory	100 sets							
Insulation	Between base and terminals: ≥20MΩ/500VDC							
	Between base and AC power cord: ≥30MΩ/500VDC							
Operating environment	Indoor use		Altitude: ≤2000m		Ambient temperature: 0~40°C			
	Relative humidity: ≤80%		Installation category: II		Pollution degree: 2			
Storage environment	-10°C~70°C, ≤70%RH							
Power source	AC110V/220V±10% selectable, 50/60Hz							
Accessories	Power cord x1, Operation manual x1, RS232 cable x1, Software CD x1							
Dimension	215Wx89Hx412D mm							
Weight	9.8kg		9.8kg		10.2kg		10.2kg	

Specifications are subject to change without prior notice.

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